~~Claims~~ what is claimed is:

1. A temperature sensor having at least one conductor track, a temperature-dependent change in a resistance of the conductor track being measured and evaluated, characterized in that the conductor track (14) is made of a metal, which covers a surface (24) of a carrier made of a metal oxide, metal carbide, or metal nitride.

2. The temperature sensor as recited in Claim 1, characterized in that the carrier is made of zirconium dioxide and/or aluminum oxide.

3. The temperature sensor as recited in one of the preceding claims, characterized in that the metal is cobalt, nickel, copper, or platinum.

4. The temperature sensor as recited in one of the preceding claims, characterized in that to determine the resistance, an a.c. voltage can be applied to the conductor track (14).

5. A method for manufacturing a temperature sensor having at least one conductor track, a temperature-dependent change in a resistance of the conductor track being measured and evaluated by the temperature sensor, characterized in that the conductor track (14) is formed by the currentless deposition of a metal onto a surface (24) of a carrier made of a metal oxide, metal nitride, or metal carbide and by a subsequent thermal treatment.

6. The method as recited in Claim 5, characterized in that a layer thickness (d) of a metal layer (26) disposed on the surface (24) of the carrier is determined by the duration and/or selected temperature during a thermal treatment.

7. The method as recited in Claims 5 and 6, characterized in that the carrier is used as a powder.

8. The use of a temperature sensor as recited in one of Claims 1 through 7 in a layer (12) of a laminated layer sensor.

add new A3 {B3 ADD C2}